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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/147,428	12/22/1998	YUSUKE SHIOTA	2839-0065-3-	1707

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EXAMINER

CINTINS, IVARS C

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 02/26/2002

23

Please find below and/or attached an Office communication concerning this application or proceeding.

mk-23

# Office Action Summary

Application No.  
09/147,428

Applicant(s)  
Shiota et al.

Examiner  
Ivars Cintins

Art Unit  
1724



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on Dec 17, 2001

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 6-10, 14, 15, 19, 23, 26, 27, 29, and 30 is/are pending in the application.

4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 6-10, 14, 15, 19, 23, 26, 27, 29, and 30 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some\* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_

20) ☐ Other:

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The following is a quotation of the first paragraph of 35

U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 6-10, 14, 15, 19, 23, 26, 27, 29 and 30 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The limitation that the apparatus includes a "substance excluding alumina" (claim 6, last line; claim 15, last line; claim 23, line 10; claim 27, line 10; and claim 30, last line) does not appear to be supported by the disclosure originally filed, and hence constitutes **new matter**. Claims 7-10, 14, 19, 26 and 29 depend from claims containing new matter, and therefore suffer similarly.

The following is a quotation of the second paragraph of 35

U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 6-10, 14, 15, 19, 23, 26, 27, 29 and 30 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The term "the substance excluding alumina" (claim 6, last line; claim 15, last line; claim 23, line 10; claim 27, line 10; and claim 30, last line) lacks antecedent basis in the claims, and is therefore indefinite. Also, it is not clear what is meant by this term. Similarly, the term "the vertical partition" (claim 8, line 2; and claim 9, line 1) lacks antecedent basis in the claims, and is therefore also indefinite. Claims 7, 10, 14, 19, 26 and 29 depend from indefinite claims, and are therefore themselves indefinite.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6, 7, 10, 14, 15, 19, 26, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gentry (U.S. Patent No. 5,601,797) in view of Beck et al (U.S. Patent No.

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4,865,701) or Takagi et al (U.S. Patent No. 5,338,713). Gentry discloses the claimed invention with the exception of the specific gravity of the alumina employed, and its particle size. Beck et al and Takagi et al each disclose alumina having a density of 4 g/cm<sup>3</sup> (see col. 2, line 38 of Beck et al; and col. 3, lines 12-13 of Takagi et al). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the alumina of either secondary reference for the alumina of the primary reference, since this secondary reference alumina is capable of being formed into balls in substantially the same manner as the alumina of the primary reference, to produce substantially the same results. Also, the exact size of the alumina balls utilized in the thus modified primary reference system is not seen to materially affect the overall operation of this reference system, or to produce any new and unexpected result; and is therefore deemed to be an obvious matter of choice in design, insufficient to patentably distinguish the claims. Applicant should note that Gentry clearly discloses (see col. 6, line 15) that such alumina balls can have "varying diameters".

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gentry in view of Beck et al or Takagi et al, as applied above, further in view of published European Patent

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Application No. 0 636 399. The modified primary reference discloses the claimed invention with the exception of the recited vertical partition. Published European Patent Application No. 0 636 399 discloses an apparatus comprising a particulate bed, and teaches the use of a vertical partition (see page 2, right column, lines 25-33) in order to minimize surface movements of the particulate material in the bed. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the vertical partition of published European Patent Application No. 0 636 399 for the "holddown grid" of Gentry (i.e. element 108), since this secondary reference vertical partition is capable of minimizing surface movement of particulate material in substantially the same manner as the holddown grid of the primary reference, to produce substantially the same results. The exact height (claim 9) and cross-sectional area (claim 8) of this vertical partition are not seen to materially affect the overall operation of the reference device, or to produce any new and unexpected result; and are therefore deemed to be obvious matters of choice in design, insufficient to patentably distinguish these claims.

Claims 23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/13463 in view of Gentry, as modified by Beck et al or Takagi et al. WO 96/13463 discloses a

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wet air oxidation unit comprising a catalytic bed reactor. Accordingly, this reference discloses the claimed invention with the exception of the specific type of catalytic unit employed. Gentry, as modified by Beck et al or Takagi et al, discloses a catalytic unit of the type recited; and it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the catalytic unit of this modified secondary reference for the catalytic unit of the primary reference, since this modified secondary reference catalytic unit is capable of promoting catalytic oxidation of contaminants in a fluid in substantially the same manner as the catalytic unit of the primary reference, to produce substantially the same results.

The disclosure is objected to because page 23, lines 12-13, of the specification discloses dimensions for a dimensionless variable (i.e. specific gravity). Appropriate correction is required.

Applicant's arguments filed December 17, 2001 have been noted and carefully considered. Applicant argues that the alumina balls of Gentry have a specific gravity ranging from 3.5 to 3.9, and would therefore be unable to exert a load which is sufficient to suppress movement of the solid catalyst packed bed, thereby eliminating abrasion of the solid catalyst in this bed.


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This argument, however, is not deemed to be persuasive of patentability because: (1) the alumina of Gentry as modified by Beck et al or Takagi et al will have a specific gravity of 4.0, which would be sufficient to produce the above noted functions; and (2) Applicant also discloses that alumina can be used in the recited apparatus (see page 24, line 16 and page 39, line 21 of the specification).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

The fax phone numbers for this art unit are: (703) 872-9311 for "Official" faxes after Final Rejection; (703) 872-9310 for all other "Official" faxes; and (703) 872-9492 for "Draft" and other "Unofficial" faxes.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

  
**Ivars C. Cintins**  
**Primary Examiner**  
**Art Unit 1724**

I. Cintins  
February 24, 2002